

TABLE 3.—Late seismological reports. (Instrumental)—Concluded.

Date.	Charac- ter.	Phase.	Time.	Period T.	Amplitude.		Dis- tance.	Remarks.
					A _m	A _n		
Massachusetts. Cambridge. Harvard University Seismographic Station.								
[J. B. Woodworth temporarily absent. Records interpreted and measured by the U. S. Weather Bureau.]								
Lat., 42° 22' 36" N.; long., 71° 06' 59" W. Elevation, 5.4 meters. Foundation: Glacial sand over clay.								
Instruments: Two Bosch-Omori 100 kg. horizontal pendulums (mechanical registration).								
Instrumental constants...					$\frac{V}{N}$	$\frac{T_0}{25}$	$\frac{e}{1}$	
					E 80	23	0	
					N 50	25	4:1	
1916. June 2			H. m. s.	Sec.	μ	μ	Km.	
	P _m		14 05 40				3,190	
	PR _m		14 06 36					
	S _m		14 10 37					
	L _m		14 14 47					
	L _m		14 20 22	18				
	F _m		14 50					F in microseisms.
3	eL _m		6 11 30					Very feeble record.
	F _m		6 22 00					
15	e _m		11 39 53					Sheet changed at 13h 15m before end of quake.
	L _m		12 15 00	20				
19	P _m ?		1 24 53				2,990?	
	PR _m ?		1 26 48					
	S _m		1 29 33					
	L _m ?		1 34 45					
	L _m		1 42 00	20				
	F _m		2 10 00					
20	eL _m		7 27 15					
	F _m		7 50 (9)					
21	iP _m		21 43 19				6,925	
	PR _m		21 45 20					
	S _m		21 51 44					
	SR _m		21 55 15					
	L _m		22 01 40					F in microseisms.
24	L _m		7 21 00					Record feeble, phases indistinct.
	F _m		8 00 00					
25	e _m		18 28 00					
	S _m ?		18 34 45					
	L _m		18 40 00					
	F _m		19 20 00					
30	P _m		3 08 29				5,080	
	S _m		3 15 15					
	SR _m		3 18 52					
	L _m		3 22 42					
	F _m		3 50 00					

SEISMOLOGICAL DISPATCHES.¹**Kobe, Japan, December 1, 1916.**

Damage caused by the earthquake of Sunday, November 25, which was briefly reported by cable, was considerably greater than was first indicated. It was the most severe in 25 years. Some of the Japanese earthquake experts believe the disturbance was due to the subsidence of subterranean fissures below the sea bottom, off the city of Kobe. (Assoc. Press.)

San Salvador, Republic of Salvador, December 20, 1916.

A volcanic explosion near the small village of Lower Verapaz, Guatemala, has caused the death of 15 persons. (Assoc. Press.)

Unionville, Nev., December 19, 1916.

Slight earth shocks were felt here on December 17th, 6:45 a. m. and on December 18th, 9 p. m., Pacific time. (Local observer.)

Redding, Cal., December 25, 1916.

Lassen Peak was in eruption to-day, emitting a great pillar of smoke. (Assoc. Press.)

Redding, Cal., December 28, 1916.

Two great pillars of smoke and steam poured from Lassen Peak to-day, rising almost vertically from the main crater and reaching an estimated height of 2,000 feet. The other smoke streamer from a smaller vent was about half as high. (Assoc. Press.)

EARTHQUAKES FELT IN THE UNITED STATES DURING 1916.

By W. J. HUMPHREYS, Professor in Charge.

[Dated: Weather Bureau, Washington, D. C., Feb. 3, 1917.]

During 1916, 131 earthquakes strong enough to be felt were reported from different parts of the continental United States, as listed in the accompanying Table 1 and graphically represented (a dot for each report) on chart XI at the end of this issue of the REVIEW.

On February 21, a quake of intensity VI (Rossi-Forel), occurred near Asheville, N. C., that was reported from seven States. For further details see this REVIEW March, 1916, 44; 154; also Taber in the Bulletin of the Seismological Society of America, v. 6, p. 218.

On May 12 a quake of intensity VII, occurred near Boise, Idaho.

On October 18 a quake of intensity VII, occurred near Birmingham, Ala., that was reported from eight States. This is discussed in some detail by Finch and Hopkins in this issue of the REVIEW, p. 690-693.

None of these, however, did much damage; merely shook down some plaster, toppled over a few chimneys, and the like.

A few quakes of moderate intensities, V-VI, occurred in California, but none of them did any appreciable damage. A discussion by A. H. Palmer of the California earthquakes will appear in an early number of the Bulletin of the Seismological Society of America.

TABLE 1.—Places in the United States reporting earthquakes during 1916.

[Consult also Chart XI (XLIV-153).]

Place.	Ap- prox- imate lati- tude (north).	Ap- prox- imate longi- tude (west).	Num- ber of quakes re- ported.	Place.	Ap- prox- imate lati- tude (north).	Ap- prox- imate longi- tude (west).	Num- ber of quakes re- ported.
ALABAMA.				ARIZONA.			
Anniston.....	33 39	85 50	2	Chifton.....	33 04	109 17	1
Argo.....	33 42	86 31	2	Holbrook.....	34 54	110 08	1
Asheville.....	33 50	86 14	1	Nogales.....	31 20	110 52	1
Athens.....	34 50	86 59	1	Pinedale.....	34 19	110 15	1
Auburn.....	32 34	85 28	1	Pinto.....	35 05	109 38	1
Benton.....	32 19	86 47	1	Shumway.....	34 26	110 04	1
Bessemer.....	33 25	86 58	1	Snowflake.....	34 33	110 04	1
Birmingham.....	33 32	86 50	3	St. Michaels.....	35 38	109 05	1
Bridgeport.....	34 57	85 41	1	Thatcher.....	32 50	109 47	1
Calera.....	33 06	86 45	1	CALIFORNIA.			
Camden.....	32 00	87 16	1	Arrowhead			
Camp Hill.....	32 46	85 37	1	Springs.....	34 15	117 16	1
Clanton.....	32 49	85 39	1	Avalon.....	33 27	118 22	1
Cordova.....	32 44	87 08	1	Bakersfield.....	35 22	119 00	2
Dadeville.....	32 48	85 44	1	Barrett.....	32 43	116 46	1
Decatur.....	34 36	87 00	1	Barstow.....	34 53	117 12	1
Davensville.....	33 32	86 16	1	Beaumont.....	33 55	117 00	4
Eufaula.....	31 52	85 06	1	Bishop.....	37 21	118 22	1
Florence.....	34 48	87 40	1	Brawley.....	32 59	115 40	2
Fort Deposit.....	31 59	86 36	1	Bridgeport.....	38 18	119 15	1
Gadaden.....	33 59	86 00	2	Cahuilla.....	33 32	116 43	5
Geneva.....	31 02	85 50	1	Calexico.....	32 40	115 28	7
Goodwater.....	33 04	86 03	1	Camp Baldy.....	34 15	117 40	1
Quartersville.....	34 22	86 18	1	Claremont.....	34 07	117 44	5
Hamilton.....	34 07	87 58	1	Coachella.....	33 40	116 10	1
Irondale.....	33 33	86 42	1	Corona.....	33 52	117 35	1
Lincoln.....	33 36	86 03	2	Covelo.....	39 47	123 16	1
Madison.....	34 41	86 43	1	Edison.....	35 21	118 53	1
Maple Grove.....	34 09	85 49	1	El Cajon.....	32 48	116 58	1
Mentone.....	34 32	85 33	1	El Centro.....	32 50	115 32	1
Montgomery.....	32 23	86 18	1	Eureka.....	40 48	124 11	3
Moulton.....	34 30	87 18	1	Fairmont.....	34 45	118 25	2
Oneonta.....	33 55	88 29	1	Fresno.....	36 43	119 49	1
Opelika.....	32 38	85 21	1	Gray.....	33 49	116 37	1
Ozark.....	31 28	85 37	1	Gray Mountain.....	34 38	116 15	2
St. Bernard.....	34 11	86 48	1	Hollister.....	36 50	121 20	4
Scottsboro.....	34 40	86 02	1	Imperial.....	32 50	115 35	1
Selma.....	32 05	87 01	1	Indio.....	33 43	116 12	1
Talladega.....	33 26	86 05	1	Julian.....	33 05	116 37	2
Valley Head.....	34 32	85 32	2	King City.....	36 14	121 06	2
Vernon.....	33 46	88 06	1				
Wedowee.....	33 18	85 29	1				

¹ Reported by the organization indicated and collected by the seismological station at Georgetown University, Washington, D. C.